

Examrace

Statistics MCQs –Discrete Distributions Part 9

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161. In checking river water samples for bacteria, water is placed in a culture medium in order to grow colonies of bacteria. The number of colonies seen in a dish is a random variable, X . Scientists know that on average there are five colonies per dish. What is the probability that the next dish studied will contain three or fewer colonies?

- a. 0.238
- b. 0.433
- c. 0.125
- d. 0.265
- e. 0.285

Answer: D

162. In checking river water samples for bacteria, water is placed in a culture medium in order to grow colonies of bacteria. The number of colonies seen in a dish is a random variable, X . Scientists know that on average there are six colonies per dish. What is the probability that the next dish studied will contain four or fewer colonies?

- a. 0.238
- b. 0.433
- c. 0.125
- d. 0.265
- e. 0.285

Answer: E

163. A random variable, X , follows a Poisson distribution with a standard deviation of 3. What is $P(X < 5)$?

- a. 0.055
- b. 0.815
- c. 0.238
- d. 0.440

e. 0.151

Answer: A

164. A random variable, X , follows a Poisson distribution with a variance of 3. What is $P(X < 5)$?

a. 0.055

b. 0.815

c. 0.238

d. 0.440

e. 0.151

Answer: B

165. A random variable, X , follows a Poisson distribution with a standard deviation of 2. What is $P(X < 3)$?

a. 0.055

b. 0.815

c. 0.238

d. 0.440

e. 0.151

Answer: C

166. A random variable, X , follows a Poisson distribution with a variance of 5. What is $P(X < 5)$?

a. 0.055

b. 0.815

c. 0.238

d. 0.440

e. 0.151

Answer: D

167. A random variable, X , follows a Poisson distribution with a variance of 6. What is $P(X < 4)$?

a. 0.055

- b. 0.815
- c. 0.238
- d. 0.440
- e. 0.151

Answer: E

168. If X is a random variable such that $X \sim P(3.5)$, what is $P(X \leq 5)$?

- a. 0.858
- b. 0.321
- c. 0.446
- d. 0.062
- e. 0.529

Answer: A

169. If X is a random variable such that $X \sim P(3.5)$, what is $P(X \leq 2)$?

- a. 0.858
- b. 0.321
- c. 0.446
- d. 0.062
- e. 0.529

Answer: B

170. If X is a random variable such that $X \sim P(6)$, what is $P(X \leq 5)$?

- a. 0.858
- b. 0.321
- c. 0.446
- d. 0.062
- e. 0.529

Answer: C

171. If X is a random variable such that $X \sim P(6)$, what is $P(X \leq 2)$?

- a. 0.858

- b. 0.321
- c. 0.446
- d. 0.062
- e. 0.529

Answer: D

172. If X is a random variable such that $X \sim P(5.5)$, what is $P(X \leq 5)$?

- a. 0.858
- b. 0.321
- c. 0.446
- d. 0.062
- e. 0.529

Answer: E

173. Cars arrive at an Engen petrol station at an average rate of 10 cars per hour. What is the probability that less than 4 cars arrive in 30 minutes?

- a. 0.265
- b. 0.433
- c. 0.857
- d. 0.532
- e. 0.406

Answer: A

174. Cars arrive at an Engen petrol station at an average rate of 8 cars per hour. What is the probability that less than 4 cars arrive in 30 minutes?

- a. 0.265
- b. 0.433
- c. 0.857
- d. 0.532
- e. 0.406

Answer: B

175. Cars arrive at an Engen petrol station at an average rate of 6 cars per hour. What is the probability that less than 4 cars arrive in 20 minutes?

- a. 0.265
- b. 0.433
- c. 0.857
- d. 0.532
- e. 0.406

Answer: C

176. Cars arrive at an Engen petrol station at an average rate of 9 cars per hour. What is the probability that less than 5 cars arrive in 30 minutes?

- a. 0.265
- b. 0.433
- c. 0.857
- d. 0.532
- e. 0.406

Answer: D

177. Cars arrive at an Engen petrol station at an average rate of 12 cars per hour. What is the probability that less than 2 cars arrive in 10 minutes?

- a. 0.265
- b. 0.433
- c. 0.857
- d. 0.532
- e. 0.406

Answer: E

178. A local police station receives on average 8 emergency telephone calls per hour. What is the probability that the station will get at least 4 calls per hour?

- a. 0.039
- b. 0.094
- c. 0.905

d. 0.958

e. 0.963

Answer: D

179. Seventy (70) accidents are reported on a particular stretch of highway over a 90-day period. What is the probability that there will be more than one accident during a week (assume a seven-day week)?

a. 0.9722

b. 0.9857

c. 0.9561

d. 0.9756

e. 0.9844

Answer: A

180. Eighty (80) accidents are reported on a particular stretch of highway over a 90-day period. What is the probability that there will be more than one accident during a week (assume a seven-day week)?

a. 0.9722

b. 0.9857

c. 0.9561

d. 0.9756

e. 0.9844

Answer: B

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